

ABSTRACT OF THE DISCLOSURE

A diffusion media is provided for implementation with a PEM fuel cell. The diffusion media is a permeable sheet that is rigid along a transverse axis, flexible along a lateral axis and has a substantially incompressible thickness. The diffusion media is able to be mass produced in large sheets and rolled along the lateral axis for transport and storage. The rigidity of the transverse axis is provided by either inclusion of larger fibers or metallic strips aligned in the transverse direction and prevents tenting of the diffusion media into flow channels of the PEM fuel cell. The diffusion media is water and gas permeable and electrically conductive.